






Community Rating System Webinars Mapping Credits

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Community Rating System Webinars Mapping Credits

- ✓ Mute phones - *6
- ✓ Unmute for questions (*6)
- ✓ 1 CFM CEC –
 - e-mail us if you want it







National Flood Insurance Program
Community Rating System
Coordinator's Manual
FIA-15/2013
FEMA

540 Drainage System Maintenance



CRS Resources

Home | 2013 Manual | 100 Series | 200 Series | 300 Series | 400 Series | 500 Series | 600 Series | 700 Series

www.CRSResources.org

CRS Resources Home

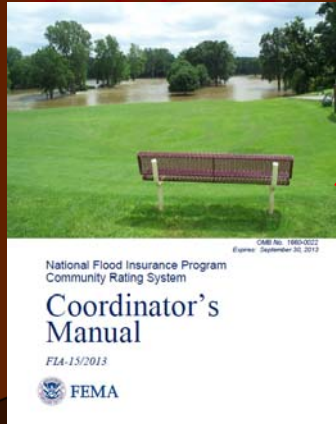
This is the temporary location of the CRS Resources webpage. This website is provided for webinar participants, users groups, and CRS coordinators to obtain reference materials related to ongoing refinements of the CRS. Here you will find CRS guidance documents, worksheets, and tools relevant to the activities to be credited under the New CRS Coordinator's Manual.

Use the menu above to find resources organized by CRS Activity.

Download the 2013 CRS Coordinator's Manual


New communities can click here to find the CRS application and Quick Check.





National Flood Insurance Program
Community Rating System
Coordinator's Manual
FIA-15/2013
FEMA

Page 320-1






Community Rating System Webinars Mapping Credits

- Activity 410 (Floodplain Mapping)
- Activity 320 (Map Information Service)
- Activity 440 (Flood Data Maintenance)



410 Floodplain Mapping

410 Floodplain Mapping




410 Floodplain Mapping

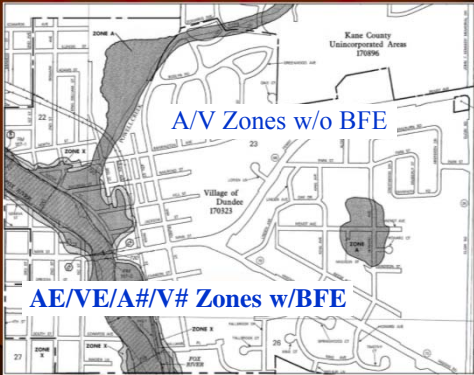
Page 410-2

410 Floodplain Mapping

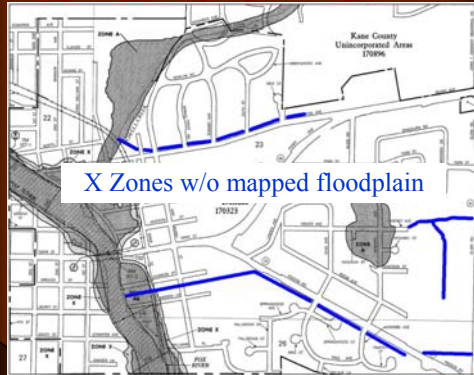
Objective: improve the quality of the mapping used to regulate floodplain development



410 Floodplain Mapping




410 Floodplain Mapping



410 Floodplain Mapping

Credit is for:

- ✓ Using data not provided by FEMA,
- ✓ Data prepared to a higher study standard, and/or
- ✓ Sharing in the cost of a Flood Insurance Study




410 Floodplain Mapping

Pages 410-7 – 8

411.b Activity Credit Criteria

- (1) All studies and data must be displayed on a map
- (2) Must use the map/data in floodplain regulations
- (3) Study technique must be FEMA-approved or approved by the CRS technical reviewer
- (4) If study affects a length of stream/shoreline
→ must submit to FEMA to revise the FIRM
(It's OK if FEMA does not use it)



410 Floodplain Mapping
Pages 410-9 – 10

412.a New Studies (NS)
Studies not credited

- Minimum NFIP requirements
 - Developments greater than 50 lots or 5 acres
 - "Obtain, review and reasonably utilize" available data
 - No-rise or max 1 foot cumulative rise certificate
- Not adopted for regulatory purposes
- No engineering study or new map
- New BFE lower than BFE on the FIRM




410 Floodplain Mapping
Pages 410-10

412.a New Studies (NS)
New BFE lower than BFE on the FIRM

If AE/VE Zone on the FIRM and the BFE ↓
SFHA rates → X Zone rates
→ No mandatory purchase requirement
→ No duplicate CRS credit

If no BFE on the FIRM or the BFE ↑
→ CRS credit




410 Floodplain Mapping
Page 410-11

Credit Points

NS = as shown in the following table, based on the study scope and the original FIRM zone, not to exceed the maximum of 290 points for this element

| Study Scope | Original FIRM Zone | | |
|--|--------------------|--------|------------|
| | B, C, D, or X | A or V | AE, VE, A# |
| 1. Delineation of an approximate A Zone | 70 | 60 | - |
| 2. a. Flood elevations for a site at time of development | 100 | 80 | 45 |
| b. Flood elevations and floodway for a site at time of development | 130 | 105 | 65 |
| 3. New profile or length of shoreline, base flood elevations/depts in AH and AO Zones. | 225 | 175 | 110 |
| 4. New profile with floodway, length of shoreline with coastal velocity zone delineation, or converting coastal A Zones to V Zones | 290 | 230 | 140 |

410 Floodplain Mapping
Page 410-11



MAP#1

410 Floodplain Mapping
Page 410-10

| Study Scope | Original FIRM Zone | | |
|--|--------------------|--------|------------|
| | B, C, D, or X | A or V | AE, VE, A# |
| 1. Delineation of an approximate A Zone | 70 | 60 | - |
| 2. a. Flood elevations for a site at time of development | 100 | 80 | 45 |
| b. Flood elevations and floodway for a site at time of development | 130 | 105 | 65 |
| 3. New profile or length of shoreline, base flood elevations/depts in AH and AO Zones. | 225 | 175 | 110 |
| 4. New profile with floodway, length of shoreline with coastal velocity zone delineation, or converting coastal A Zones to V Zones | 290 | 230 | 140 |

410 Floodplain Mapping
Pages 410-14 – 15


412.b Leverage (LEV)

LEV = 0, if the study was fully funded by FEMA

LEV = $\frac{\text{Non-FEMA share of the study cost}}{\text{Total cost of the study}}$

LEV = the total of the following:

- (a) 0.27, if a better topographic map was contributed to the study effort
- (b) 0.22, if other contributions were made to the study effort



410 Floodplain Mapping
Pages 410-16 – 17

412.c State review (SR)

Some states already have review procedures that are eligible for SR credit

New Jersey—Full credit for riverine studies, partial for coastal.

Indiana—Full credit for riverine studies, partial for coastal.

Michigan—Full credit for riverine studies, partial for coastal.

Minnesota—Full credit for all studies.

Wisconsin—Full credit for all studies.

Illinois—The northeast portion of the state receives full credit for river and partial for coastal, the rest of the state receives partial credit.

SR = as shown in the following table, based on the study scope and the original FIRM zone, not to exceed the maximum of 60 points for this element

| Study Scope | Original FIRM Zone | | |
|---|--------------------|--------|------------|
| | B, C, D, or X | A or V | AE, VE, A# |
| 1. Delineation of an approximate A Zone | 20 | 20 | 10 |
| 2. Flood elevations for a site at time of development | 45 | 35 | 20 |
| 3. New profile or length of shoreline, base flood elevations/depths in AH and AO Zones. | 60 | 45 | 25 |

410 Floodplain Mapping
Pages 410-18 – 19

412.d Higher study standards (HSS)

- Factor of safety
- Better topographic data
- Future conditions hydrology
- 500-year flood elevations and boundaries

| Study scope | Original FIRM Zone | | | Max per Study |
|---|--------------------|--------|----------------|---------------|
| | B, C, D, or X | A or V | AE, VE, A#, V# | |
| 1. Delineation of an approximate A Zone | 20 | 15 | — | 60 |
| 2. Flood elevations for a site at time of development | 30 | 20 | 15 | 90 |
| 3. New profile or length of shoreline | 80 | 60 | 40 | 160 |

410 Floodplain Mapping
Page 410-22

412.e More restrictive floodway standard (FWS)

410 Floodplain Mapping
Page 410-23

412.e More restrictive floodway standard (FWS)

Credit points

FWS = 110, if the floodway delineation was based on less than 0.11 feet of rise in the base flood elevation, OR

FWS = 90, if the allowable rise was from 0.11 to 0.25 feet, OR

FWS = 50, if the allowable rise was from 0.26 to 0.5 feet, OR

FWS = 25, if the allowable rise was from 0.51 to 0.99 feet

50: OH, MT, CO
110: IL, IN, MI, MN, WI

410 Floodplain Mapping
Page 410-24

412.f Mapping for special flood-related hazards (MAPSH)

| | |
|----------------------|--------------------|
| Uncertain flow paths | Closed basin lakes |
| Mudflow hazards | Coastal erosion |
| Ice jams | Tsunamis |
| Land subsidence | |

410 Floodplain Mapping
Pages 410-25 – 26

412.g. Cooperating Technical Partner (CTP)



CTP1 =

- 10, if the community is a partner
- 10, if the regional agency or state is a partner and there will be a study that benefits the community

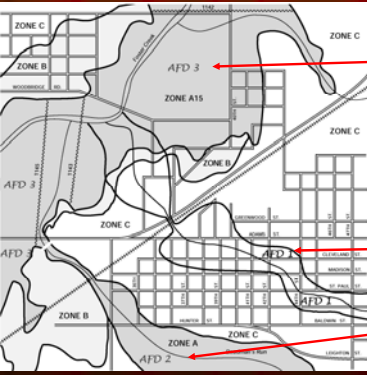
Score the study under the other elements

CTP2 =

- 1.18, if the study or standard was prepared or adopted pursuant to the agreement
- 1.0, if it wasn't

410 Floodplain Mapping  

Page 410-27





MAP#3 – higher floodway standard FWS

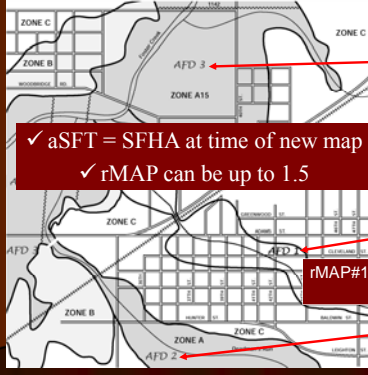
413 Impact Adjustment

MAP#1 – new study in X Zone
NS, LEV, HSS, FWS

MAP#2 – study required for a permit in A Zone
NS, LEV, HSS, FWS

410 Floodplain Mapping  

Page 410-27





✓ aSFT = SFHA at time of new map
✓ rMAP can be up to 1.5

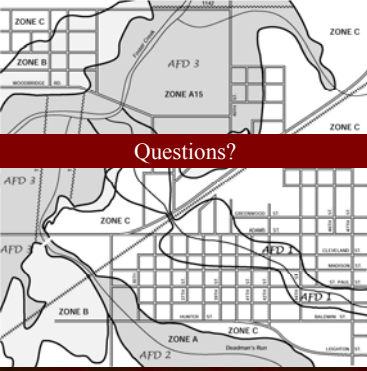
aMAP#3 = 267 acres

aMAP#1 = 71 acres



$rMAP\#1 = \frac{aMAP\#1}{aSFT} = \frac{71}{325} = 0.27$

aMAP#2 = 58 acres


410 Floodplain Mapping  





Questions?

320 Map Information Service  


Activity 320
Map Information Service





320 Map Information Service  

Credit is assigned for providing inquirers information from the community's Flood Insurance Rate Map.

Additional credit for additional map information




320 Map Information Service  

Pages 320-3 – 5

321.b Activity Credit Criteria

To receive the credit the community must

- (1) Receive credit for reading the FIRM for inquirers (MI1)
- (2) Locate a property based on a street address
- (3) Volunteer the information to the inquirer
- (4) Provide an opportunity to ask questions
- (5) Respond in a reasonable amount of time
- (6) Publicize the service at least annually
- (7) Update the base FIRM at least annually
- (8) Keep all FIRMs issued since 1999
- (9) Keep a record of the service



[illegible]

320 Map Information Service

About the Mandatory Purchase of Flood Insurance

The NFIP: The National Flood Insurance Program (NFIP) is a federal program authorized by the property owners in participating communities to purchase flood insurance on eligible buildings and contents, whether they are in or out of floodplains. This community participation is the primary source of funding for the NFIP.

The NFIP insures most washed and cuffed buildings that are primarily above ground in a permanent floodplain, including mobile homes, and buildings in the course of construction. Property owners can purchase building contents coverage from any participating NFIP community. **The NFIP insures most washed and cuffed buildings that are primarily above ground in a permanent floodplain. To find a local insurance agent that writes flood insurance in your area, see [www.flood.gov](#).**

Mandatory Purchase Requirement: Pursuant to the Flood Disaster Protection Act of 1973 and the National Flood Insurance Act of 1968, the purchase of flood insurance is mandatory for all buildings in federally related financial assistance for the acquisition and reconstruction of buildings in Special Flood Hazard Areas (SFHAs). An SFHA is defined as an area of flood hazard on a Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM).

The mandatory purchase requirement also applies to federal loans from such financial institutions as commercial banks, savings and loan associations, savings banks, and credit unions that are regulated, supervised, or insured by federal agencies, such as the Federal Reserve, the Federal Deposit Insurance Corporation, the Comptroller of the Currency, the Farm Credit Administration, the Office of Thrift Supervision, and the National Credit Union Administration. It further applies to loans guaranteed by Farm Service Administration in the secondary mortgage market.

Federal financial assistance programs affected by the laws include loans and grants from agencies such as the Department of Veterans Affairs, Federal Home Administration, Federal Housing Administration, Small Business Administration, and FEMA disaster loans.

How it Works: When making, increasing, renewing, or extending any type of federally backed loan, you are required to contact a flood map information service that most current FEMA FIRM is in force. If any part of the building is located in an SFHA, if the building is in an SFHA, the federal agency or lender must provide written notice, written notification to the borrower that flood insurance is mandatory as a condition of the loan. Even though a portion of land and property on a building is located in a flood zone, the entire purchase and replacement coverage is not apply unless the building, all, or some part of the building, is in the SFHA. However, lenders, on their own initiative, may require the purchase of flood insurance even if a building is located outside an SFHA, up to 25% of all NFIP flood insurance from outside SFHAs (B, C, and X zones).

Under federal regulations, the required coverage must equal the amount of the loan including replacement value of the loan or the maximum amount of replacement available from the NFIP, whichever is less. The maximum amount of coverage available for a single family residence is \$200,000 and for non-owner occupied buildings is \$500,000. Federal agencies and regulators, including government sponsored enterprises, such as Freddie Mac and Fannie Mae, may have other requirements.

Page 320-8


320 Map Information Service



Page 320-11

M13 Other problems not on the FIRM

Examples:

- Areas predicted to flood in the future
- Local drainage problems
- Areas mapped outside SFHA
- A levee or dam failure inundation
- DWR's BAM maps – <http://gis.bam.water.ca.gov/bam/>



320 Map Information Service  

Page 320-12

MI4 Flood depth data



Provide depth info

(a) Map showing depths

(b) Flood and ground elevation data

440 Flood Data Maintenance

Activity 440 – Flood Data Maintenance

440 Flood Data Maintenance

Page 440-2

Objective: make community floodplain data more accessible, current, useful, and/or accurate






440 Flood Data Maintenance

Page 440-3

442.a Additional Map Data (AMD)

Systems credited:

- ✓ GIS or other digital mapping
- ✓ Database management program
- ✓ Map overlays

956 El Cañon Way
Floodzone: AE10.5 (NAVD88)
Panel: 0010H
Updated: 7/23/2010 10:56:40 AM
Notes and Comments: LOMRADD mterrar

962 El Cañon Way
Floodzone: AE10.5 (NAVD88)
Panel: 0010H
Updated: 7/23/2010 10:56:40 AM
Notes and Comments: mterrar



440 Flood Data Maintenance

Page 440-4

Additional Map Data (AMD)

Credit criteria

- (1) AMD1 is a prerequisite for all other AMD credit
- (2) System is used regularly by regulatory staff
- (3) Updated annually for new data and changes
- (4) Digitized data made available to FEMA if requested

956 El Cañon Way
Floodzone: AE10.5 (NAVD88)
Panel: 0010H
Updated: 7/23/2010 10:56:40 AM
Notes and Comments: LOMRADD mterrar

962 El Cañon Way
Floodzone: AE10.5 (NAVD88)
Panel: 0010H
Updated: 7/23/2010 10:56:40 AM
Notes and Comments: mterrar


440 Flood Data Maintenance

Page 440-4

AMD1 = 20 for showing:

1. SFHA boundaries
2. Corporate limits
3. Streets
4. Parcel or lot boundaries

Prerequisite for the rest of the AMD credits



440 Flood Data Maintenance

Pages 440-4 – 5

AMD2 = 26 for showing buildings or building footprints

AMD3: floodways or coastal high hazard areas

AMD4: base flood elevations

AMD5: FIRM zone names


AMD6: 500-year flood data

AMD7: other natural hazards

AMD8: topographic information

AMD9: flood data in tax data base

AMD10: old FIRM layers



440 Flood Data Maintenance

Page 440-5

AMD11: regulation/mitigation data
 AMD12: natural floodplain functions
 AMD13: building elevation data

| Street Number | Street Name | FIRM zone | 10-year | 50-year | 100-year | 100-year | BFE Elevation (1929 Datum) | Lowest Floor | Minus Floor | 10-year | 50-year | 100-year | 100-year | LAG | BFE Minus Flood | LAG x Minus | 10-year | 50-year | 100-year | |
|---------------|------------------|-----------|---------|---------|----------|----------|----------------------------|--------------|-------------|---------|---------|----------|----------|-----|-----------------|-------------|---------|---------|----------|--|
| 150302 | Camp Field Drive | AE | 715.1 | 715.8 | 717.8 | 716.7 | 714.2 | 2.5 | 0.9 | 712.2 | 4.5 | 2.9 | 2.9 | | | | | | | |
| 150325 | Camp Field Drive | AE | 715.1 | 715.8 | 717.8 | 716.7 | 714.0 | 0.7 | -0.9 | 713.0 | 3.7 | 2.1 | 2.1 | | | | | | | |
| 150344 | Richardson Drive | AE | 715.1 | 715.8 | 717.8 | 716.8 | 716.4 | 0.4 | -1.3 | 715.3 | 1.5 | -0.3 | -0.3 | | | | | | | |
| 330678 | Richardson Drive | AE | 715.1 | 715.8 | 717.8 | 716.8 | 717.2 | -0.3 | -2.2 | 715.2 | 1.6 | -0.3 | -0.3 | | | | | | | |
| 330686 | Richardson Drive | AE | 715.1 | 715.8 | 717.8 | 716.8 | 717.0 | -0.2 | -1.9 | 715.2 | 1.6 | -0.1 | -0.1 | | | | | | | |
| 330690 | Richardson Drive | AE | 715.1 | 715.8 | 717.8 | 716.8 | 717.7 | -0.9 | -2.6 | 714.4 | 2.4 | 0.7 | 0.7 | | | | | | | |
| 330942 | Fox River Drive | AE | 715.1 | 715.8 | 717.8 | 716.6 | 715.9 | 0.9 | -0.8 | 714.6 | 2.0 | -0.3 | -0.3 | | | | | | | |
| 330970 | Fox River Drive | AE | 715.1 | 715.8 | 717.8 | 716.7 | 714.7 | 2.0 | 0.4 | 712.0 | 4.7 | 3.1 | 3.1 | | | | | | | |
| 330980 | Fox River Drive | AE | 715.1 | 715.8 | 717.8 | 716.7 | 715.0 | 0.8 | -0.9 | 712.4 | 4.3 | 2.3 | 2.3 | | | | | | | |
| 340014 | Fox River Drive | AE | 715.1 | 715.8 | 717.8 | 716.7 | 715.4 | 1.3 | -0.3 | 714.2 | 2.5 | 0.9 | 0.9 | | | | | | | |
| 340040 | Fox River Drive | AE | 715.1 | 715.8 | 717.8 | 716.5 | 715.6 | 0.9 | -0.6 | 713.5 | 3.0 | 1.0 | 1.0 | | | | | | | |
| 340050 | Fox River Drive | AE | 715.1 | 715.8 | 717.8 | 716.7 | 714.7 | 0.0 | -1.6 | 714.6 | 2.7 | 1.1 | 1.1 | | | | | | | |
| 340062 | Fox River Drive | AE | 715.1 | 715.8 | 717.8 | 716.5 | 715.7 | 0.8 | -0.7 | 713.0 | 2.9 | 1.4 | 1.4 | | | | | | | |
| 340065 | Fox River Drive | AE | 715.1 | 715.8 | 717.8 | 716.6 | 715.9 | 0.7 | -0.8 | 712.7 | 3.0 | 2.4 | 2.4 | | | | | | | |
| 340067 | Fox River Drive | AE | 715.1 | 715.8 | 717.8 | 716.7 | 716.6 | 0.1 | -1.5 | 712.7 | 4.0 | 2.4 | 2.4 | | | | | | | |
| 340067 | Fox River Drive | AE | 715.1 | 715.8 | 717.8 | 716.5 | 715.4 | -1.9 | -2.4 | 713.5 | 3.0 | 1.0 | 1.0 | | | | | | | |
| 340070 | Fox River Drive | AE | 715.1 | 715.8 | 717.8 | 716.7 | 715.5 | 1.4 | -0.2 | 712.4 | 4.3 | 2.3 | 2.3 | | | | | | | |
| 340075 | Fox River Drive | AE | 715.1 | 715.8 | 717.8 | 716.6 | 715.7 | 0.9 | -0.6 | 712.0 | 3.7 | 2.2 | 2.2 | | | | | | | |
| 340078 | Fox River Drive | AE | 715.1 | 715.8 | 717.8 | 716.7 | 715.0 | 0.8 | -0.9 | 712.6 | 4.1 | 2.5 | 2.5 | | | | | | | |
| 340080 | Fox River Drive | AE | 715.1 | 715.8 | 717.8 | 716.5 | 716.7 | -0.2 | -1.7 | 712.8 | 3.7 | 2.2 | 2.2 | | | | | | | |

440 Flood Data Maintenance

Pages 440-6 – 7

Additional Map Data (AMD)
 Impact adjustment: $rAMD = \frac{aAMD}{aSFHA}$

Documentation:
 (a) Printouts of the maps or database
 (b) Impact adjustment map

956 El Cajon Way
 Floodzone: AE10.5 (NAVD88)
 Panel: 0010H
 Updated: 7/23/2010 10:56:40 AM
 Notes and Comments: LOMRADO meter

962 El Cajon Way
 Floodzone: AE10.5 (NAVD88)
 Panel: 0010H
 Updated: 7/23/2010 10:56:40 AM
 Notes and Comments: meter

440 Flood Data Maintenance

Page 440-8

442.b FIRM maintenance (FM)
 Credit criteria
 (a) Copies of old FIRMs, FIS, floodway maps
 (b) Additional credit for Flood Hazard Boundary Maps
 (c) Can be paper, microfilm, scanned, etc.

INITIAL IDENTIFICATION:
 AUGUST 12, 1974

FLOOD HAZARD BOUNDARY MAP REVISIONS:
 JUNE 3, 1977

FLOOD INSURANCE RATE MAP EFFECTIVE:
 MARCH 15, 1979

FLOOD INSURANCE RATE MAP REVISIONS
 March 4, 1984 - to update corporate limits
 July 1, 1989 - to change special flood hazard areas, to change zone designations, and to update map format

440 Flood Data Maintenance

Page 440-9

442.c Benchmark maintenance (BMM)
 ERM
 BMM

440 Flood Data Maintenance

Page 440-9



442.c Benchmark maintenance (BMM)

BMM 1: a program that maintains benchmarks so surveyors can find them and can depend on them to be accurate

440 Flood Data Maintenance

Page 440-9

442.c Benchmark maintenance (BMM)
 BMM 2: Continuously Operating Reference Stations (CORS)


440 Flood Data Maintenance  



Pages 440-10 – 11

Benchmark maintenance (BMM)

Credit criteria:

- (1) Must be a list of benchmarks or CORS
- (2) Benchmarks
 - (a) In NSRS or a permanent monument
 - (b) Recovered in last 5 years
 - (c) 1st or 2nd order vertical control
 - (d) Stability rating of A or B, and
 - (e) Within 1 mile of regulatory floodplain



440 Flood Data Maintenance  

Benchmark Maintenance

Data Type Desired:



Stability Desired:

Step 6. Enter Vertical order 2 or better

PowerPoint on NSRS CRSResources.org

☐ Include suspect heights in subsidence areas
☐ Browse Mode

Step 7. Hit Submit


440 Flood Data Maintenance  



Page 440-11

Benchmark maintenance (BMM)

Credit criteria:

- (3) CORS: Alternative to benchmarks
 - ✓ No double credit in the same area
 - ✓ Have ≥ 3 CORS within 30 miles
- (4) Impact adjustment



440 Flood Data Maintenance  



Page 440-12



Benchmark maintenance (BMM)

Impact adjustment

$$rBMM = \frac{aBMM\ 1\ or\ aBMM\ 2}{aSFHA}$$

aBMM 1 = area of SFHA within 1 mile of benchmarks
 aBMM 2 = area of SFHA within 30 miles of ≥ 3 CORS stations

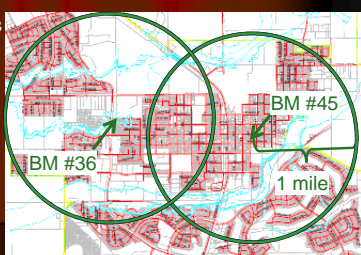
440 Flood Data Maintenance  



Page 440-12

Benchmark maintenance (BMM)

Impact adjustment for BMM1

1. Plot the benchmarks
2. Draw 1 mile radius circle
3. Repeat for each benchmark
4. Total the areas of the affected SFHA = aBMM



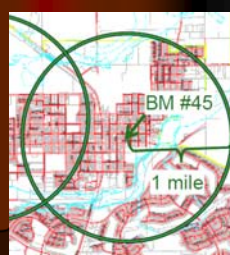
440 Flood Data Maintenance  



Page 440-12

Benchmark maintenance (BMM)

Documentation

- (a) List of benchmarks and/or CORS stations
- (b) Key benchmark data (location, order, stability)
- (c) Impact adjustment map showing benchmarks within 1 mile of SFHA




440 Flood Data Maintenance  



Page 440-13

442.D Erosion data maintenance (EDM)
Credit for updating coastal erosion rates
CRS Credit for Management of Coastal Erosion Hazards

1998 Setback Factor

| |
|---------------------|
| 2.0 Ft. / Yr. |
| 2.5 - 3.0 Ft. / Yr. |
| 3.5 - 4.0 Ft. / Yr. |
| 4.5 - 5.0 Ft. / Yr. |
| 5.5 - 6.0 Ft. / Yr. |
| 6.5 - 7.0 Ft. / Yr. |
| 7.5 - 8.0 Ft. / Yr. |
| > 8.0 Ft. / Yr. |



440 Flood Data Maintenance  


Page 440-14

443 Credit calculation

$c440 = cAMD + FM + cBMM + EDM$, where

$cAMD = AMD \times rAMD$

$cBMM = (BMM\ 1 \times rBMM\ 1) + (BMM\ 2 \times rBMM\ 2)$



440 Flood Data Maintenance  

Questions?
More Webinars?
Tracey.Ferguson@atkinsglobal.com

